

Lec 3

Stock Flow diagram:

- When you freeze the time stock continue but flow stop
- Any system is a collection of stocks that changed by the flow.

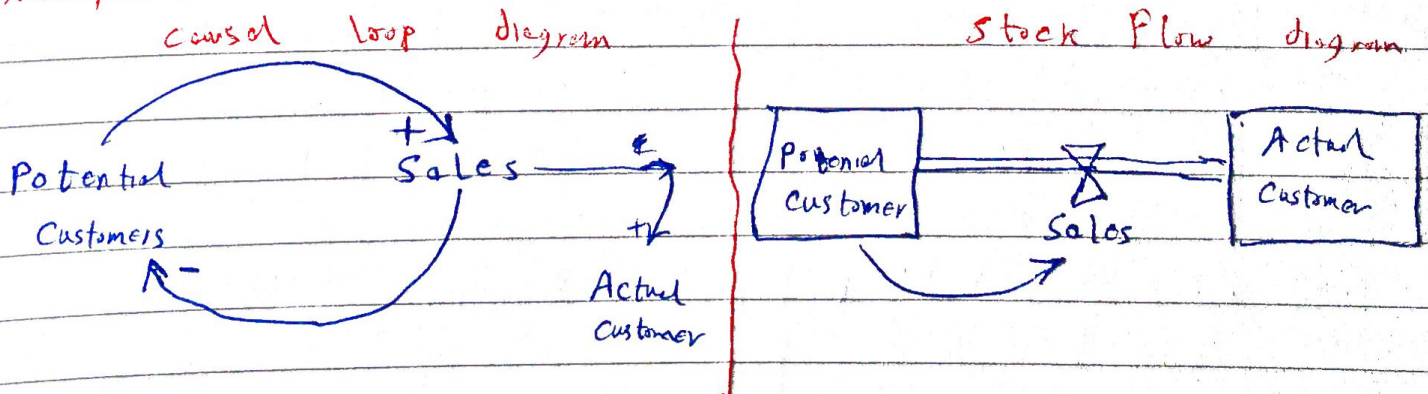
Types of stocks:

- 1- materials
- 2- personal
- 3- Capital equipments
- 4- Informations
- 5- orders - Communications
- 6- Money

Stock Flow model consist of:

- 1- stocks
- 2- flow
- 3- Auxiliary Variable

Example



This system can be represented using S-shape

$$\text{Actual customer} = \int_0^t \text{Sales}(t) dt$$

$$\text{potential customer} = I - \int_0^t \text{sales}(t) dt$$

$I \rightarrow$ initial value

* difference between simulation and emulation?

* Stock can't be negative but flow can't be negative

~~In operation example~~

In State space model
States are Flow